STRASSE cruise summer 2012

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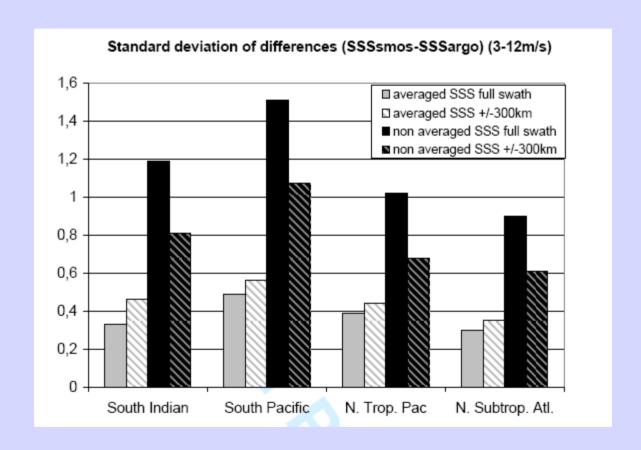
^a LOCEAN + LATMOS, Institut Pierre Simon Laplace, 4, place Jussieu, Paris, France.

LPO, Brest, France

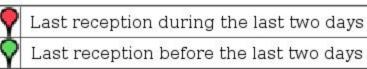
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NOCS, Southampton, UK
University of Heidelberg, Heidelberg, Germany
WHOI

SMOS/AQUARIUS cal/val (example August 2010; Boutin et al., 2011) (ascending orbits; average 100kmx100km 10 days)



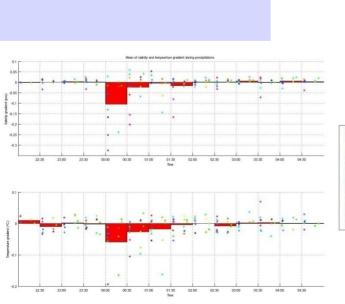




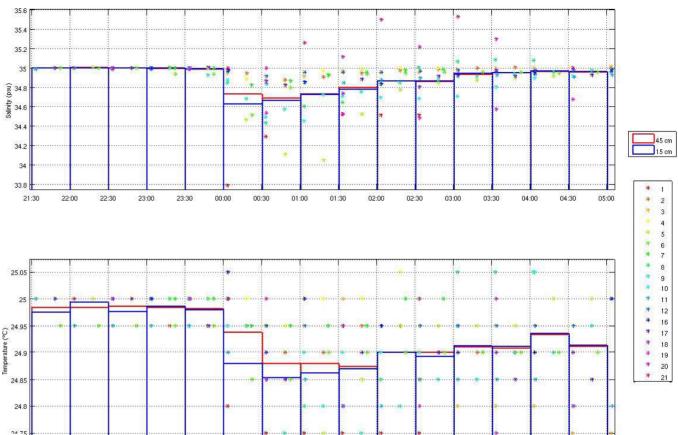
SVP Drifters for SMOS cal-val France +ICM/CSIC www.locean-ipsl.upmc.fr/smos/drifters

SVP + surplas For gradients 15 cm-50 cm

Average over 18 rainfall events in tropical Indian + Atlantic Ocean

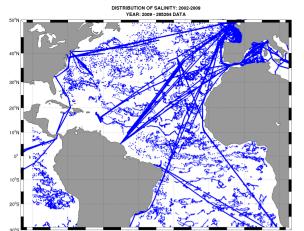


22:00

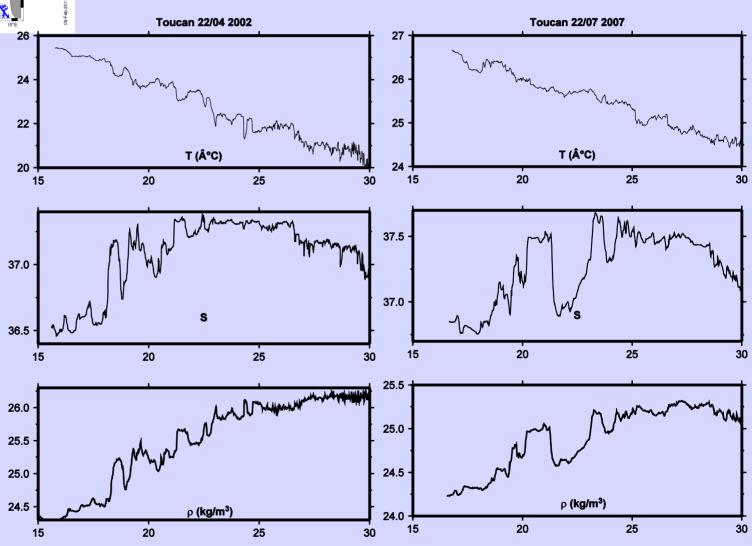


01:30

03:00



TSG sections (Toucan – Colibri) across salinity maximum area



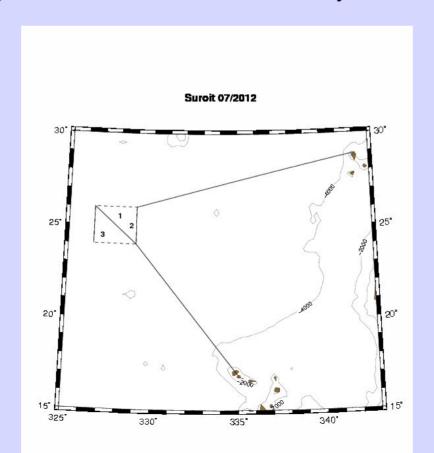
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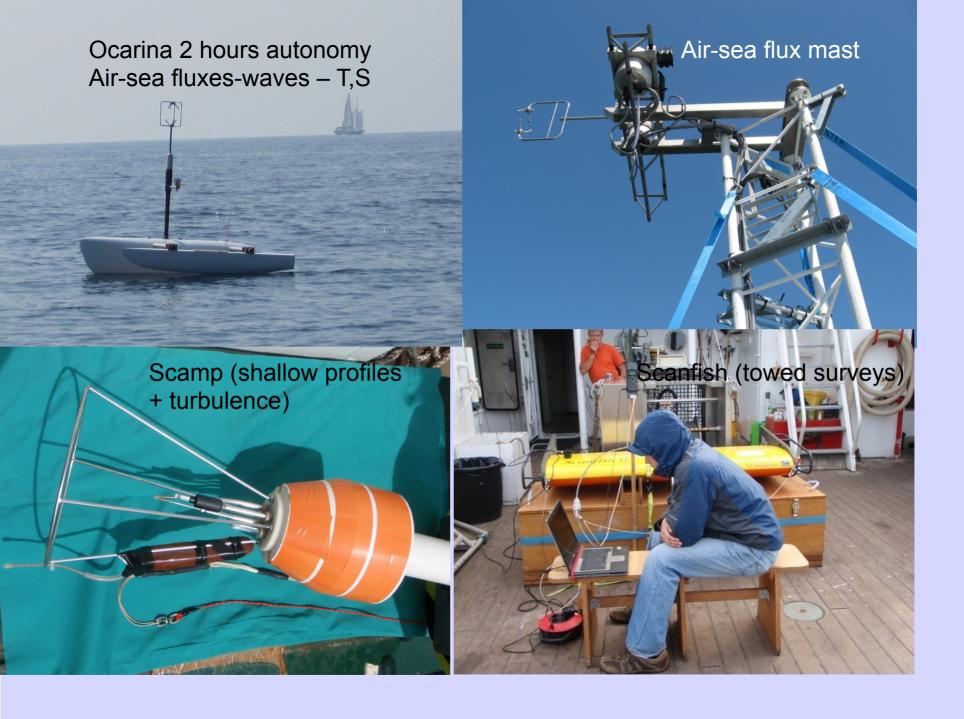
RV Suroit (or RV Thalassa)

29(+2) days,

Includes:

- 6 days of steaming
- 3 3-days long stations (sub-meso-scale studies)
- 8 days for Survey (gliders + ship) of box
- 3 days for wider SPURS area + 2 days recovery





Bio-geochemical profiling floats (Provbio H. Claustre) 1m resolution to 2m from surface



ASIP autonomous profiler (up to two days)

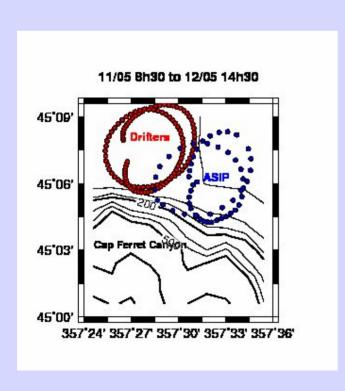
Iridium transmission
slow C, T, 02 (to 26 cm from surface); fast T,C t o1-2 cm from surface
Turbulence profiles to 20-30m
every
10' to 30' for up to 36 hours

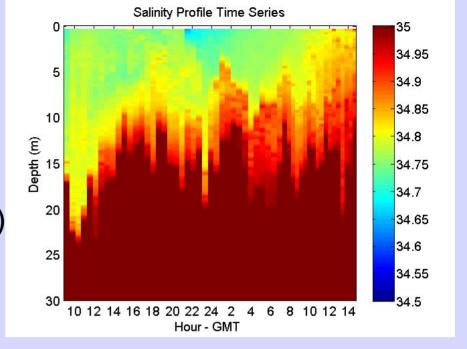
Surplas2 salinity floats + drifters
Every 15': C 10 to 50 cm; T 15 cm;
Accelerometer for wave spectra
Patches of 5 drifters
GPS positions every 30'

ASIP 3km apart

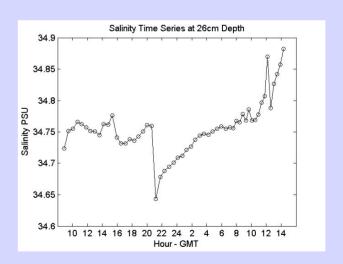
Large internal wave noticed (11/05 mid-day) flow of deeper layer relative to ASIP (shelf lower oxygen water passes by)

Low SSS of ASIP seems to have spread a few hours later over drifters

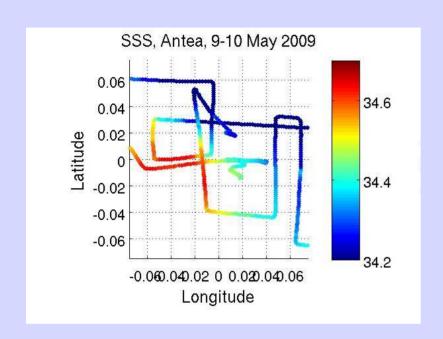




Rain 11 evening



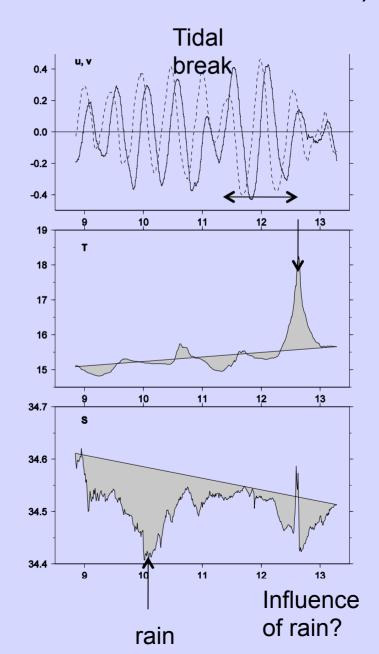
Site 1 near shelf-break north of Cape Ferret Canyon – SSS front



Large M2 coefficient (but not regular: 11 morning)

Large variability in SSS: Cross front flow? Rain events?

Averaged Time series at 15 cm from 5 8m-drogued salinity drifters (one drifters in saltier water)



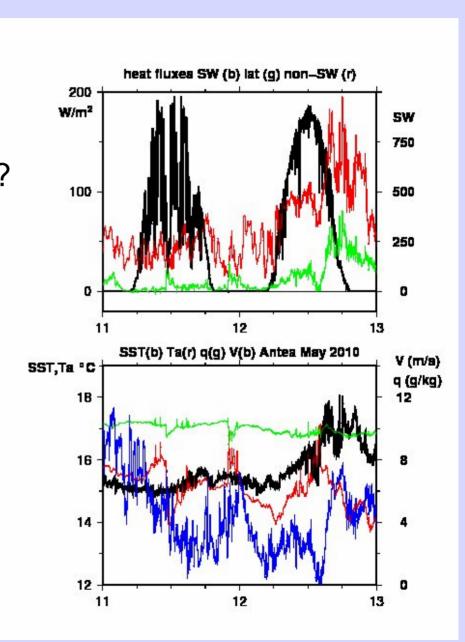
Meteorology:

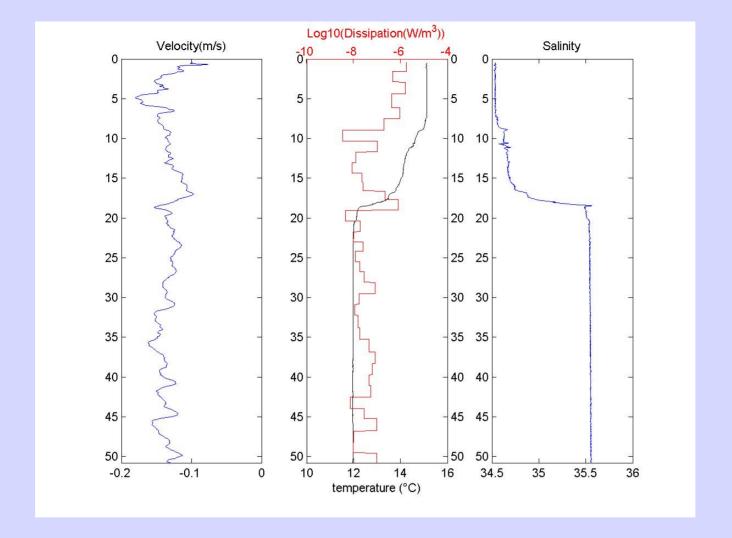
Night 10-11 Significant wind Contribution to internal wave Variability (unlikely)/surface currents?

12 morning Very weak wind

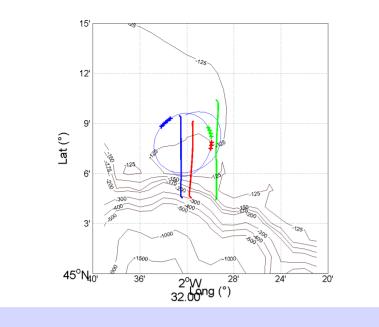
Rain showers 11 evening (but weak on drifters)

No significant contribution of E to SSS variability

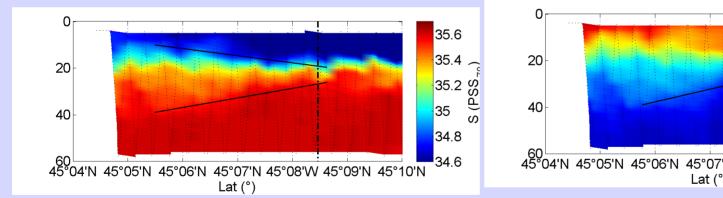


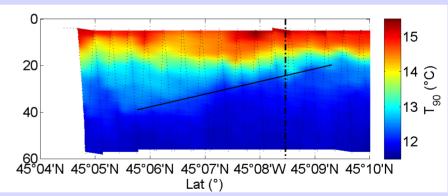


Weak indications of vertical mixing in thermocline Here for profile on May 10 12 am If k=0.2*epsilon/N2, could contribute weakly to Surface SSS increase and spreading of thermocline.



North-South scanfish section 2 (12 at 04:45 between drifters and ASIP)





Large spreading of thermocline south of site: internal waves generation)